

PATENT ABSTRACTS OF JAPAN

(11) Publication number : **03-015674**

(43) Date of publication of application : **24.01.1991**

(51) Int.CI. **F04B 9/00**
F04B 43/04

(21) Application number : **01-146793**

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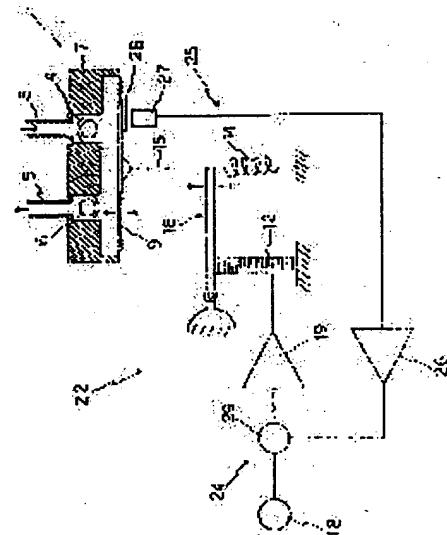
(22) Date of filing : **12.06.1989**

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(54) CONTROL DEVICE OF PIEZOELECTRIC PUMP

(57) Abstract:

PURPOSE: To make flow control correctly at real time by correcting the driving of a moving part by means of a correction signal made by reversing the difference between a displacement signal equivalent to the mechanical vibration of the moving part and a predetermined signal, in a device where fluid is fed under pressure by means of the mechanical vibration of the moving part.



CONSTITUTION: A piezoelectric pump is composed of a pump 1, in which a diaphragm 9 is provided on a housing 7 with an inlet 3 and outlet 5 therein, and a drive section 22 for vibrating the diaphragm 9 mechanically.

The drive section 22 is provided with a magnifying mechanism 16 for transmitting the movement of a lever 13, magnifying the displacement of a piezoelectric actuator 12 energized through a drive circuit 24, to the diaphragm 9 through a leaf spring 15, and the drive circuit 24 is controlled by a control circuit 25. In this case, the mechanical vibration of the diaphragm 9 is detected by a displacement sensor 27, and a correction signal made by reversing the difference between a displacement signal from the displacement sensor 27, and a predetermined signal is added to an alternating signal from a transmitter 29 to correct the driving of the diaphragm 9.

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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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